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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,699	04/02/2004	Hisaya Shimizu	056208.53953US	9741
23911	7590	06/15/2006		
CROWELL & MORING LLP INTELLECTUAL PROPERTY GROUP P.O. BOX 14300 WASHINGTON, DC 20044-4300			EXAMINER WALTERS, JOHN DANIEL	
			ART UNIT	PAPER NUMBER
			3618	

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/815,699		SHIMIZU ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	John D. Walters		3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| <p>✓ 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>✓ 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br/> Paper No(s)/Mail Date <u>Multiple</u>.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)<br/> Paper No(s)/Mail Date. ____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6) <input type="checkbox"/> Other: ____.</p> |
|--|---|

### **DETAILED ACTION**

Claims 1 – 18 have been examined.

#### ***Specification***

The abstract of the disclosure is objected to because it contains two paragraphs.

Correction is required. See MPEP § 608.01(b).

The abstract, disclosure, and claims are objected to because of the following informalities:

- the instant application is replete with grammatical errors exemplified by the following:
  - “These unit and system are particularly to suitable...” (page 1, lines 6 and 7);
  - “...only the engine operate (page 1, line 22);
  - “And when the vehicle is in braking...” (page 2, line 10).

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 1 is rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility. Claim 1 states that a motorized machine configured to drives wheels ONLY obtains the energy which powers said machine by said driven wheels. The system, as described, provides no energy source which would initiate movement of the system.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 1 states that a motorized machine configured to drives wheels ONLY obtains the energy which powers said machine by said driven wheels. One skilled in the art would be unable to make or use the invention as claimed.

Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

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Claim 3 states a motorized machine comprises an electrical system independent of an engine's electrical system. Applicant's disclosure states, "the engine drive system and the motor drive system are provided with an electric connection." Systems that are connected are not independent. One skilled in the art would be unable to make or use the invention as claimed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 3, 9 – 11, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 and 3 recite the limitation "some wheels" and "the other wheels". There is insufficient antecedent basis for this limitation in the claim.

Claims 9, 11, and 14 recite the limitation "the single unit". There is insufficient antecedent basis for this limitation in the claim.

Claims 3 and 10 begin by claiming an apparatus, i.e. a vehicle drive train unit, but contain method steps. It is not clear whether said claims are directed towards an apparatus or a method and are thus indefinite.

***Claim Rejections - 35 USC § 102***

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1 – 5, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Yutaka (JP2002-21861). Yutaka discloses a regenerative brake system comprising:

- a vehicle drive train system (Fig. 1);
- a motorized machine, i.e. motor-generator which drives wheels (Fig. 1, item 3 & paragraph 11);
- wherein said motorized machine is power only by energy obtained from wheels (paragraph 6);
- an engine which drives wheels not driven by said motorized machine (Fig. 1, item 1);
- wherein a unit, i.e. drive train system, is detachably attached to the vehicle (inherent in automotive construction, i.e. engine and drive train components are removable for servicing and/or replacement);
- said unit being attached to a differential gear (Fig. 1, item 10).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 – 12, 14, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yutaka (JP2002-21861). Yutaka discloses a regenerative brake system as described above. Additionally, Yutaka discloses:

- a capacitor device (paragraph 12);
- a translator for electric power (Fig. 1, item 5);
- a controller (Fig. 1, item 5a);
- a brake (Fig. 1, item 8);
- said capacitor device comprising a battery and a capacitor (paragraph 12).

In regards to claims 6 – 8, 11 and 14, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine known components into as many or as few “integrated” units as dictated by manufacturing or assembly ease or size requirements. Integration of components has been held to be an obvious variation, see *In re Larson*, 340 F.2d 965, 967, 144 USPQ 347, 349 (CCPA 1965).

In regards to claim 11, it is well known in the art to make use of brakes being powered by either hydraulic or electric power. Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to make use of an electrically power brake system as this would allow for fewer components as electric power can be provided by said motor-generator and no hydraulic components would be required.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yutaka (JP2002-21861) in view of Morisawa et al. (6,484,832). Yutaka discloses a regenerative brake system as described above. Yutaka does not directly specify the use of an inverter. Morisawa, however, discloses an apparatus for controlling an automotive vehicle comprising:

- an inverter (Fig. 1, item 50);
- a device which increases and decreases voltage between said inverter and a capacitor device (Fig. 1, item 46 & column 10, line 64 to column 11, line 3).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to make use of the inverter of Morisawa in the system of Yutaka in order to allow for the conversion of power into an appropriate form.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Morisawa et al. (2002/0023789) disclose a hybrid vehicle;
- Yamaguchi et al. (6,488,608) disclose a hybrid vehicle;
- Arai (6,435,296) discloses a torque detector and controls;
- Ellers (4,923,025) discloses a hybrid electric/ICE vehicle drive system;
- Gardner (5,346,031) discloses a hybrid motor vehicle having an electric motor;
- Morisawa et al. (5,984,034) disclose a hybrid vehicle;
- Nagano et al. (6,059,064) disclose a hybrid vehicle;

- Tabata (6,540,642) discloses a vehicle control system and vehicle control method;
- Kenyon (4,438,342) discloses a novel hybrid electric vehicle;
- Aikawa et al. (2002/0019284) disclose a power transmission system and operation method therefore;
- Moore (6,306,056) discloses a dual engine hybrid electric vehicle;
- Hoshiya et al. (6,383,114) disclose a hybrid vehicle control apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John D. Walters whose telephone number is (571) 272-8269. The examiner can normally be reached on Monday - Friday, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Ellis can be reached on (571) 272-6914. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner  
Art Unit 3618

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